REMARKS

Claims 1-14 remain in the application. No claim has been allowed.

Claim 1 was objected to by the Examiner because the claim recited "use/lose" which the Examiner asserted rendered the claim unclear. Applicants thank the Examiner for the suggested amendment which has been adopted herein. Claims 2-3, 8 and 14, which are dependent on Claim 1, have been accordingly amended in light of the amendment to the base claim. Further, Claims 7 and 10 have been amended for clarity, and Claim 13 has been amended to provide proper antecedent basis.

Claims 1-14 were rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,434,649 to Baker, et al. (hereinafter, "Baker") in view of U.S. Patent Application Publication 2005/0021813 to Kovacevic, et al. (hereinafter, "Kovacevic"). It is believed that the Examiner failed to set forth a prima facie case of obviousness.

Example embodiments of the present invention are directed to a Programmable Streaming Data Processor (PSDP) which is arranged to perform primitive functions directly on data received from a streaming data interface. The PSDP processes data from a streaming data source, such as a disk drive, prior to its being forwarded to a central processing unit (CPU) of a more general processor. The PSDP performs certain preliminary processing in order to reduce the computational load on the local CPU.

The PSDP may have processing logic known as a Data Engine that is capable of examining fields of a record to determine whether a record will or will not be passed to the CPU of the JPU as an output tuple. An output tuple is comprised of the fields of the source record from the disk that are to be selected for further processing by the CPU and PSDP generated fields. For example, a record retrieved from disk consists of a record header, typically containing more than one header field, and at least one data field, and typically, many data fields for each record. The collection of fields selected for return to the CPU as a result of processing a record is referred to as a tuple. Possible tuple fields include various record header fields, the PSDP generated record address, unmodified record data fields, a hash field, and tuple status and length information. Boolean results and/or scratch pad words may also form parts of tuples. Most often a tuple will be shorter than the record that was used to generate it, but it may be longer, depending upon the program that is provided to the PSDP.

As data streams out of the filter, an output tuple is formed in a First In, First Out (FIFO) memory, in a way that permits aborting the tuple if the filter logic determines that the particular tuple should not be passed on to the CPU. Specifically, the memory FIFO has two write pointers, an "active" write pointer and a "visible" write pointer. The visible pointer maintains a position indicating a boundary of the last accepted tuple. Meanwhile, the active write pointer moves along the memory FIFO from the boundary, as words of the next possible tuple become available. As the PSDP logic determines that a tuple is not to be used, such as a result of the filter or TID processing described above, the memory FIFO's active write pointer resets by moving back to the visible write pointer location. This has the effect of ignoring the intervening fields of the unwanted tuple and allowing them to be overwritten. If the PSDP logic makes this determination while the active pointer is still pointed to a field within the unwanted tuple, the active pointer will simply reset to the visible pointer location until the last field within that unwanted tuple has been overwritten. If, on the other hand, the PSDP logic determines that a tuple is to be used, the visible pointer moves to the active pointer position, having the effect of keeping all intervening fields of the tuple that should be kept.

Baker relates to a data processor, and more specifically to a data transfer arrangement mechanism employed to transfer data to various components within a data processor. Such a multimedia processor and data transfer arrangement are directed to processing computer graphics and graphics on a standalone gaming console.

Kovacevic relates to receiving a compressed video stream, such as an MPEG-2 video stream, by a transport demultiplexor, synchronizing the video stream, parsing the video stream into separate packet types and writing the video stream data to buffer locations external to the demultiplexor. The video data control module of Kovacevic contains logic that enables the video data payload of a current packet to be stored and employs a field which, when negated, prevents any data from the current video packet from being saved.

There is no suggestion in Baker of an output FIFO device, <u>for forming tuples</u> and <u>temporarily storing them prior to conditionally forwarding them to the JPU</u>. Further, by the Examiner's own admission, Baker fails to explicitly disclose the limitations of a data engine and a tuple generator. Kovacevic similarly so fails. The abstract of Kovacevic, as generally relied on by the Examiner, only discloses parsing a compressed video stream into separate packet types; however, there is no mention of a FIFO or any other buffer, or a data engine processing

fields to select one or more fields to be output tuples. Further, although the video control module at paragraph 170 of Kovacevic might, by the Examiner's own admission, control the value of a data field that determines whether data is to be stored, the video data control module <u>does not examine fields of a record to determine whether a record will or will not be passed to the CPU of the JPU as an output tuple</u>. Moreover, never does Kovacevic teach the further limitation of <u>a tuple generator for assembling fields into the output tuple</u>, let alone <u>make use of tuples</u>.

The Examiner has failed to set forth a prima facie case of obviousness. The prior art references do not teach or suggest all the claim limitations. In order for the examiner to cite combined prior art references in a prima facie case of obviousness, all claim limitations must be considered. The Examiner's rejection is deficient for failing to cite any prior art disclosing asserting a use or lose decision value according to the determination of whether an output tuple is to be selected for further processing by additional JPUs. Therefore, as this is an element of Claim 1, upon which Claims 2-13 are dependent, the Examiner's rejections should be withdrawn.

<u>Rejections Under 35 U.S.C. §103(a)</u>

Claims 1-14 were rejected under 35 U.S.C. 103(a) as being unpatentable over Baker in view of Kovacevic.

With regard to the Examiner's rejection of Claim 1, the combination of Baker and Kovacevic (hereinafter, Baker/Kovacevic) does not overcome the deficiencies of Baker. Further, Baker/Kovacevic does not teach a data engine for determining field boundaries in output data from the streaming interface FIFO and for processing fields to select one or more fields to be output tuples, or a tuple generator for assembling fields into the output tuple. Moreover, the Examiner fails to properly reject all claim elements. For these reasons, the Examiner's rejection of Claim 1 is overcome and reconsideration is respectfully requested.

With regard to the Examiner's rejection of Claim 3, Baker/Kovacevic does not overcome any of the deficiencies of Baker. Baker/Kovacevic fails to disclose a Transaction Identifier. Further, Claim 3 is dependent on Claim 1 and therefore contains all the limitations of the base claim. For these reasons, the Examiner's rejection of Claim 3 is overcome and reconsideration is respectfully requested.

With regard to the Examiner's rejection of Claim 4, Baker/Kovacevic does not overcome any of the deficiencies of Baker. Baker/Kovacevic fails to disclose TID processing and data

engine logic being executed in parallel, and makes no reference to TID processing. Further, Claim 4 is dependent on Claim 1 and therefore contains all the limitations of the base claim. For these reasons, the Examiner's rejection of Claim 4 is overcome and reconsideration is respectfully requested.

With regard to the Examiner's rejection of Claim 6, Baker/Kovacevic. does not overcome any of the deficiencies of Baker. Baker/Kovacevic fails to disclose not asserting the use or lose decision value when a buffer local to the programmable data streaming processor is full; and means for appending an overflow filter bit to a tuple that indicates a transfer of a tuple that should be ignored. The value of the valid bit used in Baker indicates whether the specific byte is valid or not. Baker does not however, not assert a use/lose decision value when a buffer local to the programmable data streaming processor is full and make no use of an overflow filter bit to a tuple that indicates a transfer of a tuple that should be ignored. Baker/Kovacevic does not teach the use of tuples. Further, Claim 6 is dependent on Claim 1 and therefore contains all the limitations of the base claim. For these reasons, the Examiner's rejection of Claim 6 is overcome and reconsideration is respectfully requested.

With regard to the Examiner's rejection of Claim 9, Baker/Kovacevic does not overcome any of the deficiencies of Baker. Baker/Kovacevic fails to disclose an overflow filter bit inserted in a length field appended to record fragments. Baker/Kovacevic makes no reference to an overflow filter bit and does not inserts an overflow filter bit in a length field appended to record fragments. Further, Claim 9 is dependent on Claim 1 and therefore contains all the limitations of the base claim. For these reasons, the Examiner's rejection of Claim 9 is overcome and reconsideration is respectfully requested.

With regard to the Examiner's rejection of Claim 10, Baker/Kovacevic does not overcome any of the deficiencies of Baker. Baker/Kovacevic fails to disclose an invalid field appended to a tuple to indicate the results of transaction ID processing. Baker/Kovacevic dos not teach the use of tuples or make reference to an invalid field, let alone make reference to appending an invalid field to a tuple to indicates the results of transaction ID processing. Further, Claim 10 is dependent on Claim 1 and therefore contains all the limitations of the base

claim. For these reasons, the Examiner's rejection of Claim 10 is overcome and reconsideration is respectfully requested.

With regard to the Examiner's rejections of Claims 2, 5, 7-8 and 11-14, Baker/Kovacevic does not overcome any of the deficiencies of Baker. Further, Claims 2, 5, 7-8 and 11-14 are either directly or indirectly dependent on Claim 1 and therefore contain all the limitations of the base claim. For these reasons, the Examiner's rejection of Claims 2, 5, 7-8 and 11-14 is overcome and reconsideration is respectfully requested.

CONCLUSION

In view of the above amendments and remarks, it is believed that all claims are in condition for allowance, and it is respectfully requested that the application be passed to issue. If the Examiner feels that a telephone conference would expedite prosecution of this case, the Examiner is invited to call the undersigned.

Respectfully submitted,

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